



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,190	03/29/2004	Michio Tsujiura	MM4660	5831

1109 7590 05/31/2005

ANDERSON, KILL & OLICK, P.C.
1251 AVENUE OF THE AMERICAS
NEW YORK, NY 10020-1182

EXAMINER

KOSLOW, CAROL M

ART UNIT	PAPER NUMBER
----------	--------------

1755

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/813,190	Applicant(s) TSUJIURA, MICHIO	
	Examiner C. Melissa Koslow	Art Unit 1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers.

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/39/04</u> . | 6) <input type="checkbox"/> Other: ____ |

Art Unit: 1755

The information disclosure statement filed 29 March 2004 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Applicant supplied JP 2003-183073, which is listed is not listed on the PTO-1449. This reference teaches the claimed invention, but it is applicants' own Japanese application and it was published less than one year from the filing date of this application. It has been listed on the PTO-892.

Claims 1 and 9 are objected to because of the following informalities: In these claims, "possessing" should be "possessed" and "fibers with" should be "fibers where". Appropriate correction is required.

Claims 6-8 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for ceramic insulating fibers, does not reasonably provide enablement for all insulating fibers. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

The claims recite the heat resistant fibers function as insulators. This encompasses any insulating fiber, such as high melting glass and polymeric fibers. However, the specification only teaches the use of ceramic insulating fibers. Such a limited disclosure does not support the breadth of the instant claims. The examiner suggests limiting the fibers in claim 6 to ceramic insulators.

Art Unit: 1755

Claims 7 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites the limitation "the fibers". There is insufficient antecedent basis for this limitation in the claim since it is unclear which fibers are being referred to by the phrase "the fibers", the conductive fibers or the heat resistant fibers. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: the step of converting the blend to a ceramic structure.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2 and 9 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by JP 2-265286.

The abstract for this reference teaches a piezoelectric ceramic structure produced by blending piezoelectric ceramic particles and alumina/mullite fibers or potassium titanate fibers. The fibers are known to be ceramic fibers having insulating properties, to have a sintering temperature higher than the disclosed piezoelectric particles and have a higher tensile strength than the taught particles. The reference clearly teaches the claimed structure and process.

Claims 1, 2, 4 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. patent 5,403,788.

Art Unit: 1755

This reference teaches a ceramic structure produced by blending ceramic particles, such as piezoelectric ceramic particles, and ceramic fibers, such as zirconia whiskers or fibers, magnesia fibers, silicon carbide fibers and silicon nitride fibers. The taught whiskers or fibers are known to be ceramic fibers having insulating properties, to have a sintering temperature higher than the disclosed piezoelectric particles and have a higher tensile strength than the taught particles. The reference teaches the amount of fibers or whiskers is 5-15 vol% (claim 1), which falls within the claimed amount. The reference clearly teaches the claimed structure and process.

Claims 1, 2, 4 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. patent 4,341,965.

This reference teaches a ceramic structure comprising a ceramic matrix comprising carbon fibers and silicon nitride or silicon carbide whiskers, which are a type of fiber (col. 6, lines 22-23). The total amount of fibers is 5-20 vol% (col. 6, lines 44-46). The matrix material is based on zirconia, magnesium oxide or ceria. Silicon carbide and silicon nitride are both known insulators and have a sintering temperature and tensile strength greater than the matrix oxides.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 5,403,788.

As stated above, this reference teaches the claimed structure. The particles have an average particle size of 0.02-2 microns (claim 1) and the whiskers or fibers have a length of 2-50

Art Unit: 1755

microns (col. 5, lines 16-17). Thus the fibers are 1 to 2500 times the average particle size, which encompasses the claimed range. Product claims with numerical ranges which overlap prior art ranges were held to have been obvious under 35 USC 103. *In re Wertheim* 191 USPQ 90 (CCPA 1976); *In re Malagari* 182 USPQ 549 (CCPA 1974); *In re Fields* 134 USPQ 242 (CCPA 1962); *In re Nehrenberg* 126 USPQ 383 (CCPA 1960). The reference suggests the claimed structure.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at (571) 272-1233.

The fax number for all official communications is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cmk
May 20, 2005


C. Melissa Koslow
Primary Examiner
Tech. Center 1700